

tube that descends therefrom into the water and thus constitutes a water seal to secure suction through the tail race, substantially as and for the purpose set forth. 3rd. In a device for utilizing waste water power, the combination of the coffer dam sunk to the bed rock above the falls of a river, the shaft sunk through said bed rock from within said coffer dam to a point below the falls, the tail race passing through said shaft, the pendent tube dipping into the water below the falls, the open grated ports in the side of the coffer dam, the turbine chambers into which said ports open, the turbine wheels in said chambers, and the quarter turn pipes leading from the turbine chambers and emptying into the tail race to effect a suction draw on the turbines, substantially as and for the purpose set forth. 4th. In a device for utilizing waste water power, the combination of the coffer dam sunk to the bed rock above the falls, the vertical and drift shafts through said bed rock drifting out at the foot of the falls, the tubular cylinder within said shaft having its lower end submerged and forming a suction tail race, the open ports through the coffer dam, the turbine chambers into which said ports open, the quarter turn pipes through which the water passes from the turbine chambers to the suction cylinder, the turbine wheels in said turbine chambers, the flumes, the flood gates that work in said flumes, the rotary shaft that carry said turbines, the drive shafts, the bevel pinion gear that carries the power from the turbine shafts to said drive shafts, and the endless bands, drive pulleys and friction gear that communicate the engendered power to the dynamos for generating electricity or otherwise utilizing said power, as also said dynamos substantially as and for the purpose set forth.

No. 42,478. Weather Guard Attachments to Lantern.

(*Attache de garde de lanterne.*)

John P. Warner and Anthony F. Navarre, both of Washington, Columbia, U.S.A., 6th April, 1893; 6 years.

Claim.—1st. The combination of a lantern with a weather guard attachment, consisting of a hood, to which four sides, forming a rectangular receptacle, are hinged, the lower one of which produces the rest for the hand, and the upper one provided with transparent material, to observe writing to be done, all arranged as specified. 2nd. The combination of a lantern A having a hood B, secured to it, with the weather guard attachment, consisting of the top C provided with the isinglass *c* or equivalent and hinged to said side, and supported on the flange *g*, having a pin *h*, and hinged to said top C, all as shown and set forth. 3rd. The combination of a lantern A, having a hood B, to which the four folding sides, C, D, E and F are hinged, and said side E provided with pins and spring catch *k*, for securing the sides in folded position on the side of the hood, as shown and described. 4th. The combination with railroad lanterns, of a weather guard attachment, consisting of a bottom or hand rest, to which the sides are attached and a hinged top, provided with transparent material, and a holding device for the paper, as specified.

No. 42,479. Furnace Grate. (*Grille de foyer.*)

Milo Carl, Buffalo, New York, U.S.A., and Joseph Ruse, Toronto, Ontario, Canada, 6th April, 1893; 6 years.

Claim.—1st. A grate bar composed of a central rib flanked by two outer ribs, the top of the central rib being higher than the top of the outer ribs, longitudinal spaces being left between the ribs, substantially as and for the purpose specified. 2nd. A grate bar composed of a central rib flanked by two outer ribs, the top of the central rib being higher than the top of the outer ribs, longitudinal spaces being left between the ribs which are strengthened by bridges extending across the spaces, substantially as and for the purpose specified. 3rd. A pivoted grate bar composed of a central rib flanked by two outer ribs, the top of the central rib being higher than the top of the outer ribs, longitudinal spaces being left between the ribs and flanges or ledges formed on the outer edges of the outer ribs, substantially as and for the purpose specified.

No. 42,480. Can Lacquering Machine.

(*Appareil pour lacquer les boîtes métalliques.*)

Robert Deniston Hunne, Gold Beach, Oregon, U.S.A., 6th April, 1893; 6 years.

Claim.—1st. An apparatus for lacquering cans, consisting of the inclined lacquer containing trough, supply chute and open link chain, with driving pulleys by which the cans are immersed in a lacquer, and delivered from the upper end of the trough, in combination with a series of brushes beneath which the cans pass, whereby the surplus lacquer is removed therefrom, substantially as herein described. 2nd. An apparatus for lacquering cans consisting of the inclined lacquer containing trough, a supply chute, an endless traveling open link chain passing around supporting and driving pulleys adapted to receive the cans, and move them through the lacquer trough to the discharge end, a receiving belt consisting of endless chains having transverse pins with sharp edge flanges, upon which flanges the cans are received and supported, the drying chamber consisting of the inner and outer annular cylinders, the inner one having open ends through which the chain and cans pass and the outer one being closed and having steam supply and discharge pipes whereby it forms a steam jacket for the inner tube, substantially as herein described. 3rd. An apparatus for lacquering cans consisting of the inclined lacquer containing trough, endless open link carrying chains dipping into said trough, chutes by which the cans are

delivered to the lower end of the trough between the links of the chain by which they are carried to the upper and discharge end, a second belt consisting of open link chains having transversely adjustable pins with raised flanges upon which the cans are received, an enclosed annular drying chamber through which the carrying chain passes, a second cylindrical chamber forming a continuation of the drying chamber, an air blast apparatus and pipes leading from said air blast into the second cylindrical chamber whereby the cans are cooled while passing through said chamber, and a series of brushes situated at intervals with relation to the carrying chains whereby the surplus lacquer is removed from the cans as they pass, substantially as herein described. 4th. An apparatus for lacquering cans consisting of an inclined lacquer containing trough, endless open link chains by which the cans are passed through the lacquer and then transmitted through successive drying and cooling chambers, brushes situated at intervals with reference to the transmitting chains, whereby the surplus lacquer is removed from the cans, an air blast apparatus and a pipe delivering air therefrom into the cooling chamber, and gate controlled openings between the drying and cooling chambers, whereby a regulated amount of air is admitted to the cooling chamber independent of that supplied from the blast apparatus, substantially as herein described.

No. 42,481. Manufacture of Mineral Wool.

(*Fabrication de laine minérale.*)

Charles Henry Hubbell, Stanhope, New Jersey, U.S.A., 6th April, 1893; 6 years.

Claim.—The improvement in the manufacture of mineral wool, consisting in the use of granite, in combination with lime or lime bearing material, in about the proportions stated, fusing the same in a suitable cupola, and subjecting the molten mass to the action of the steam or air, substantially as described.

No. 42,482. Adjustable Shelf Support.

(*Support de tablettes.*)

Sarah Anne Morden, assignee of Walter Henry Morden, Toronto, Ontario, Canada, 6th April, 1893; 6 years.

Claim.—An adjustable shelf support, consisting of a post provided with a series of equidistant and liable holes, and a bracket having on its vertical shank a pin or pins adapted to engage any one or more of said holes, and having its inner upper corner bevelled off and provided with a strap passing around said post, substantially as set forth.

No. 42,483. Combined Hammer and Nail Feeding Device. (*Marteau et appareil d'alimentation du clou combinés.*)

Thomas Gorman, assignee of William H. Smith, both of Appleton, Wisconsin, U.S.A., 6th April, 1893; 6 years.

Claim.—1st. In a combined hammer and nail feeding device, the combination, with a handle provided with a chamber or recess, of a hammer head, said hammer head and handle formed at their junction, upon one side, with a substantially T shaped slot in horizontal section to which the nails in the receptacle are fed, said slot communicating upon one side with a depression or recess, substantially as set forth. 2nd. In a combined hammer and nail feeding device, the combination, with a handle provided with a chamber or recess, of a hammer head, said hammer head and handle formed at their junction, upon one side, with a substantially T shaped slot in horizontal section to which the nails in the receptacle are fed, said slot communicating upon its inner side with a depression or recess and upon its outer side, extending to an offset or shoulder, substantially as set forth. 3rd. In a combined hammer and nail feeding device, the combination with a handle, comprising side pieces having a butting inwardly extending flanges at their lower ends, forming a longitudinal recess the length of said handle, side plates secured to the handle, a plate covering the upper end of the longitudinal recess, and a hammer head, said hammer head and handle formed at their conjunction with a nail slot, to which the nail in the receptacle are fed, substantially as set forth. 4th. In a combined hammer and nail feeding device, the combination of a handle provided with a longitudinal recess, a plate covering said recess for a portion of its length, a hopper secured to the handle registering with the open portion of the recess, and a hammer head, said hammer head and handle formed at their conjunction with a nail slot, to which the nails in the recess are fed, substantially as set forth.

No. 42,484. Cutter Bar for Mowers.

(*Porte-lames pour faucheuses.*)

Adolph Doctor, assignee of Isaac Franklin Bassford, both of Milwaukee, Wisconsin, U.S.A., 6th April, 1893; 6 years.

Claim.—1st. The herein described cutter for mowing machines, comprising a finger bar provided with a series of fingers or guards, each provided at its rear end with a transverse groove in its upper side, anti-friction rollers journaled in said grooves and a knife bar arranged to reciprocate within said grooves, and to rest upon said anti-friction rollers, substantially as set forth. 2nd. The herein described cutter for mowing machines, comprising a finger bar provided with a series of fingers or guards each provided at its rear end